

# George G. Vega Yon

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## Education

- **Ph.D. in Biostatistics (with concentration in Stat. Comp.)** (2020)  
University of Southern California, USA  
Dissertation “*Essays on Bioinformatics and Social Network Analysis: Statistical and Computational Methods for Complex Systems*”
- **M.Sc. in Social Sciences (with concentration in Econometrics)** (2016)  
California Institute of Technology, USA
- **Master in Economics and Public Policy** (2011)  
Adolfo Ibáñez University, Chile
- **BS. in Social Sciences and BS. in Business Administration** (with a minor in Political Science) (2010)  
Adolfo Ibáñez University, Chile

## Professional Experience

- **University of Southern California, 2015–present** Department of Preventive Medicine *Research Programmer*. A senior staff member at USC’s Department of Preventive Medicine, I work closely with both staff and students on various scientific projects. My responsibilities included: implement statistical methods using R/C++, analyze complex data using USC’s High-Performance Computing cluster, conducting training sessions on statistical computing, and writing scientific papers.
- **Chilean Pension Supervisor, August 2011– August 2014** Research Division *Analyst*. Statistical and econometric analysis on the Chilean unemployment insurance, statistical software development, serving as a bridge between the IT and Research divisions.
- **Nodos Chile Social Network Analysis Ltda., January 2012–January 2014** *Partner*. Founding partner of one of the first applied SNA Consultancy Entrepreneurship in Chile.
- **Adolfo Ibáñez University, January 2011–June 2012**. School of Government *Adjunct Professor*. Taught Introductory courses of Economics, Microeconomics and Statistical computing with Stata.
- **Chilean Ministry of Social Planning, March 2011–December 2011**. Social Programs Monitoring *Analyst*. Survey and Analysis of the Government social programs supply and supporting the Monitoring Division with the Open-Data Initiative.

## Selected Publications and Work in progress

- [1] Thomas W. Valente and **George G. Vega Yon**. “Diffusion/Contagion Processes on Social Networks”. In: *Health Education & Behavior* (Feb. 2020), p. 109019812090149. URL: <http://journals.sagepub.com/doi/10.1177/1090198120901497>.
- [2] **George G. Vega Yon**, Duncan C. Thomas, John Morrison, et al. “On the automatic annotation of gene functions using observational data and phylogenetic trees”. In: *bioRxiv* (May 2020). URL: <https://www.biorxiv.org/content/early/2020/05/14/2020.05.14.095687>.
- [3] **George G. Vega Yon**, Andrew Slaughter, and Kayla de la Haye. “Exponential random graph models for little networks”. In: *Social Networks* (2020). Forthcoming.
- [4] Brooke M. Bell, Donna Spruijt-Metz, **George G. Vega Yon**, et al. “Sensing eating mimicry among family members”. In: *Translational Behavioral Medicine* (2019).
- [5] Kayla de la Haye, Heesung Shin, **George G. Vega Yon**, et al. “Smoking Diffusion through Networks of Diverse, Urban American Adolescents over the High School Period”. In: *Journal of Health and Social Behavior* (2019).
- [6] Thomas W. Valente, Heather Wipfli, and **George G. Vega Yon**. “Network influences on policy implementation: Evidence from a global health treaty”. In: *Social Science and Medicine* (2019).
- [7] **George G. Vega Yon** and Paul Marjoram. “fmcmm: A friendly MCMC framework”. In: *Journal of Open Source Software* 4.39 (July 2019), p. 1427. URL: <http://joss.theoj.org/papers/10.21105/joss.01427>.
- [8] **George G. Vega Yon** and Paul Marjoram. “slurmR: A lightweight wrapper for HPC with Slurm”. In: *Journal of Open Source Software* 4.39 (July 2019), p. 1493. URL: <https://joss.theoj.org/papers/10.21105/joss.01493>.
- [9] **George G. Vega Yon** and Brian Quistorff. “parallel: A command for parallel computing”. In: *The Stata Journal: Promoting communications on statistics and Stata* 19.3 (Sept. 2019), pp. 667–684. URL: <http://journals.sagepub.com/doi/10.1177/1536867X19874242>.
- [10] **George G. Vega Yon**. *Capital Necesario Unitario (CNU): Cálculo e Introducción Del Módulo de Stata CNU*. Working Papers 57. Superintendencia de Pensiones, Aug. 2014. URL: <https://ideas.repec.org/p/sdp/sdpwps/57.html>.
- [11] Jorge Fábrega Lacoa and **George G. Vega Yon**. “El impacto del rating televisivo sobre la actividad en Twitter: evidencia para Chile sobre la base del evento TELETÓN 2012”. In: *Cuadernos.info* 33 (Dec. 2013), pp. 43–52. URL: <http://cuadernos.info/index.php/CDI/article/view/533>.
- [12] Ximena Quintanilla, Isabel Poblete, George Vega, et al. *Estudio Actuarial de los Fondos del Seguro de Cesantía*. Tech. rep. 2013.
- [13] Andrea Repetto and **George G. Vega Yon**. *El Impacto de un Alza en la Cotización Previsional: Pensiones, Salarios y Empleo*. Tech. rep. 2013.

## Software (selected)

- [1] **Vega Yon, George G.** *rgexf: Build, Import and Export GEXF Graph Files* (2020). R package version 0.16.0. URL: <https://CRAN.R-project.org/package=rgexf>. downloads 529K
- [2] **Vega Yon, George G., Thomas Valente.** *netdiffuseR: Analysis of Diffusion and Contagion Processes on Networks* (2020). R package version 1.22.0. URL: <https://github.com/USCCANA/netdiffuseR>. downloads 18K
- [3] **Vega Yon, George G., Kayla de la Haye.** *ergmito: Exponential Random Graph Models for Small Networks* (2020). R package version 0.3-0. URL: <https://cran.r-project.org/package=ergmito>. downloads 3126
- [4] **Vega Yon, George G.** *slurmR: A Lightweight Wrapper for 'Slurm'* (2020). R package version 0.4-1. URL: <https://CRAN.R-project.org/package=slurmR>. downloads 3194
- [5] **Vega Yon, George G.** *fmcmc: A friendly MCMC framework* (2020). R package version 0.3-0. URL: <https://CRAN.R-project.org/package=fmcmc>. downloads 4878
- [6] **Vega Yon, George G.** *barry: your to-go motif accountant* (2020). C++ library version 0.0-1. URL: <https://github.com/USCbiostats/barry>.
- [7] **Vega Yon, George G.** *pruner: Implementing the Felsenstein's Tree Pruning algorithm* (2020). C++ library version 0.0-1. URL: <https://github.com/USCbiostats/pruner>.
- [8] **Vega Yon, George G., Brian Quistorff.** *parallel: Stata Module for Parallel Computing* (2019). Stata Module version 1.20.0. URL: <https://github.com/gvegayon/parallel>.
- [9] **Vega Yon, George G.** *aphylo: Statistical Inference of Annotated Phylogenetic Trees* (2019). R package version 0.1.99. URL: <https://github.com/USCbiostats/phylogenetic>.
- [10] **Vega Yon, George G.** *netplot: Beautiful graph drawing* (2019). R package version 0.0.9000. URL: <https://github.com/USCCANA/netplot>.
- [11] **Vega Yon, George G.** *googlePublicData: Working with Google's 'Public Data Explorer' DSPL Metadata Files* (2017). R package version 0.16.1. URL: <https://CRAN.R-project.org/package=googlePublicData>. downloads 24K
- [12] **Vega Yon, George G., Enyelbert Muñoz.** *ABCOptim: Implementation of Artificial Bee Colony (ABC) Optimization* (2017). R package version 0.15.0. URL: <https://CRAN.R-project.org/package=ABCOptim>. downloads 41K
- [13] **Vega Yon, George G.** *twitterreport: Out-of-the-box analysis and reporting tools for twitter* (2016). R package version 0.16. URL: <https://doi.org/10.5281/zenodo.44528>.

## Conferences and Presentations

- [1] **George Vega Yon.** “"Predicción de funciones genéticas utilizando evidencia experimental y árboles filogenéticos: Un modelo evolutivo" o "Ciencia de datos en la práctica"”. In: presented at Seminario de Ingeniería Matemática y Computacional. (talk, [slides](#)). Apr. 2020.
- [2] **George Vega Yon.** “ERGMito Statistical Models for Small Team Social Networks”. In: presented at SciTS 2020. (talk, [slides/video](#)). June 2020.
- [3] **George Vega Yon.** “Essays on Bioinformatics and Social Network Analysis Statistical and Computational Methods for Complex Systems”. In: presented at Biostats Seminars. (talk, [slides/video](#)). Jan. 2020.
- [4] **George Vega Yon.** “Essays on Bioinformatics and Social Network Analysis: Statistical and Computational Methods for Complex Systems”. In: presented at Doctoral Defense. (talk, [slides](#)). June 2020.
- [5] **George Vega Yon.** “slurmR workshop”. In: presented at Happy Scientist Seminar Series. (workshop, [slides](#)). Jan. 2020.
- [6] **George Vega Yon.** “A Brief Introduction to Using R for High-Performance Computing”. In: presented at Orange County R Users Group. (talk, [slides/video](#)). Aug. 2019.
- [7] **George Vega Yon.** “Big Problems for Small Networks: Statistical Analysis of Small Networks and Team Performance”. In: presented at Invited speaker at SONIC. (talk, [slides/video](#)). Mar. 2019.
- [8] **George Vega Yon.** “Exact Statistics and Semi-Parametric Tests for Small Network Data”. In: presented at Sunbelt 2019. (talk, [slides](#)). June 2019.
- [9] **George Vega Yon.** “Exact Statistics and Semi-Parametric Tests for Small Network Data”. In: presented at IC2S2, 2019. (talk, [slides](#)). July 2019.
- [10] **George Vega Yon.** “Happy Scientist Seminar: Research Pipelines”. In: presented at Happy Scientist Seminar. (talk, [slides](#)). Oct. 2019.
- [11] **George Vega Yon.** “Small network statistics for the network science of teams”. In: presented at NetSciX 2019, SCL. (talk, [slides](#)). Jan. 2019.
- [12] **George Vega Yon.** “What drives social networks? A gentle introduction to exponential random graph models (with a focus on small networks)”. In: presented at East LA R User Group. (talk, [slides](#)). June 2019.
- [13] **George Vega Yon.** “A brief introduction to using R for high-performance computing”. In: presented at East LA R User Group. (talk, [slides](#)). Nov. 2018.
- [14] **George Vega Yon.** “Big Problems for Small Networks: Small Network Statistics”. In: presented at NASN 2018, DC. (talk, [slides](#)). Nov. 2018.
- [15] **George Vega Yon.** “Computacion de Alto Rendimiento con R”. In: presented at satRday Santiago 2018. (workshop, [slides](#)). Dec. 2018.
- [16] **George Vega Yon.** “Estadística de Redes y Econometría Espacial (con R)”. In: presented at IMFD Summer School. (talk, [slides/video](#)). Dec. 2018.
- [17] **George Vega Yon.** “Intro to R”. In: presented at USC’s HPCC workshop. (workshop, [slides](#)). July 2018.
- [18] **George Vega Yon.** “Introduction to R (for HPC users)”. In: presented at USC’s HPCC workshop. (workshop, [slides](#)). July 2018.

- [19] **George Vega Yon.** “Overview of Social Network Models”. In: presented at NA. (talk, [slides](#)). Dec. 2018.
- [20] **George Vega Yon.** “R Bootcamp for Scientific Computing 2018”. In: presented at R Bootcamp for Scientific Computing. (workshop, [slides](#)). Aug. 2018.
- [21] **George Vega Yon.** “Uncomplicated Parallel Computing with Stata”. In: presented at Stata Conference 2017. (talk, [slides](#)). July 2017.
- [22] **George Vega Yon.** “Understanding Diffusion with netdiffuseR”. In: presented at NASN 2017. (workshop, [slides](#)). July 2017.
- [23] **George Vega Yon.** “Network Diffusion of Innovations in R: Introducing netdiffuseR”. In: presented at IC2S2, 2016. (poster, [slides](#)). June 2016.
- [24] **George Vega Yon.** “Network Diffusion of Innovations in R: Introducing netdiffuseR”. In: presented at useR! 2016. (talk, [slides/video](#)). June 2016.
- [25] **George Vega Yon.** “Reproducible Research”. In: presented at HBR Students talk. (talk, [slides](#)). Sept. 2016.
- [26] **George Vega Yon.** “Understanding Diffusion with netdiffuseR”. In: presented at Sunbelt Conference, 2016. (workshop, [slides/video](#)). Mar. 2016.
- [27] **George Vega Yon.** “Just tired of endless loops! or parallel: Stata module for parallel computing”. In: presented at Stata Conference, 2013. (talk, [slides](#)). July 2013.

## Honors and Services to the Profession

### Awards

Travel Grant, Society of Young Network Scientist, 2019.

Fellowship, California Institute of Technology, 2014.

Honorable Mention (Posters Session) Chilean Economics Society, 2012.

Scholarship, Universidad Adolfo Ibáñez, 2006

### Peer Reviewer

The Official Journal of The Society for Computational Economics

The R Journal

Social Networks

Journal of Mathematical Sociology

Journal of Open Source Software

International Conference on Computational Social Science (2019)

International Conference on Computational Social Science (2020)

SUNBELT Conference (2016)

### Book reviewer

“Microeconometrics and Matlab: An Introduction”, by Adams, Clarke and Quinn, Oxford University Press, 2015.

“Mastering Gephi Network Visualization”, by Ken Cherven, Packt Publishing, 2015.

“Network Graph Analysis and Visualization with Gephi”, by Ken Cherven, Packt Publishing, 2013.

**Misc** Founder of the [R Users Group in Chile \(2013\)](#), co-organizer of the [East LA R User Group \(LAERUG\)](#).

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